Strategic Product Placement Analysis

1. INTRODUCTION

1.1 Project Overview

This project focuses on analyzing the effectiveness of strategic product placement in retail environments. Using sales data, customer interactions, and promotional activities, it visualizes insights through Tableau and integrates them into a web application for interactive reporting.

1.2 Purpose

To identify key factors affecting product sales and assist decision-makers in optimizing product positioning, pricing, and marketing strategies.

2. IDEATION PHASE

2.1 Problem Statement

Retail businesses struggle with knowing where and how to place products to maximize sales. This project seeks to solve that by analyzing existing data and providing clear visual insights.

2.2 Empathy Map Canvas

Focuses on store managers and marketing teams:

- Thinks: “Which product placement boosts sales?”

- Feels: Overwhelmed by sales fluctuations.

- Says: “We need data to decide shelf space.”

- Does: Looks at historical data manually.

2.3 Brainstorming

- Analyze impact of pricing and competitor pricing

- Evaluate effectiveness of promotions

- Use data filters for seasonal trends

- Visualize everything in an interactive dashboard

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

Users (store managers or analysts) navigate from raw sales data to visualization dashboards for actionable insights.

3.2 Solution Requirements

- Tableau for data visualization

- Flask for web integration

- Cleaned CSV dataset

- Filterable interactive dashboard

3.3 Data Flow Diagram

Input (CSV) → Data Prep → Tableau Charts → Dashboard → Flask Web UI → User Interaction

3.4 Technology Stack

Data: CSV, Excel

Viz: Tableau

Web: HTML, CSS, Flask

Backend: Python (Flask)

4. PROJECT DESIGN

4.1 Problem-Solution Fit

Helps businesses place products effectively based on real-world sales, customer flow, and seasonal trends.

4.2 Proposed Solution

An interactive Tableau story embedded in a Flask-based web interface for fast and easy insights.

4.3 Solution Architecture

Data → Tableau → Tableau Public → Embedded in HTML → Served via Flask → Accessed via Browser

5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

Phase | Duration

Data Collection | 1day

Data Cleaning & Prep | 1 days

Visualization Design | 1 day

Dashboard & Story Dev | 2 days

Web Integration (Flask) | 1 day

Testing & Doc Prep | 1 day

6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

- Visualizations optimized with filters and extracts

- Used ≤ 6 charts per dashboard

- Minimum calculated fields

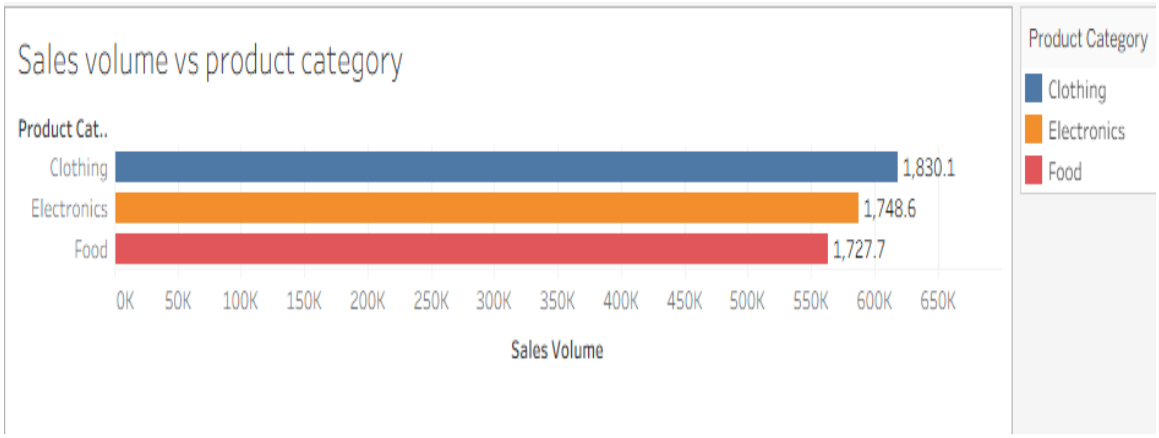
- Tableau Public used to host visuals for fast load time

7. RESULTS

7.1 Output Screenshots

Include dashboard images such as:

- Sales by Product Category

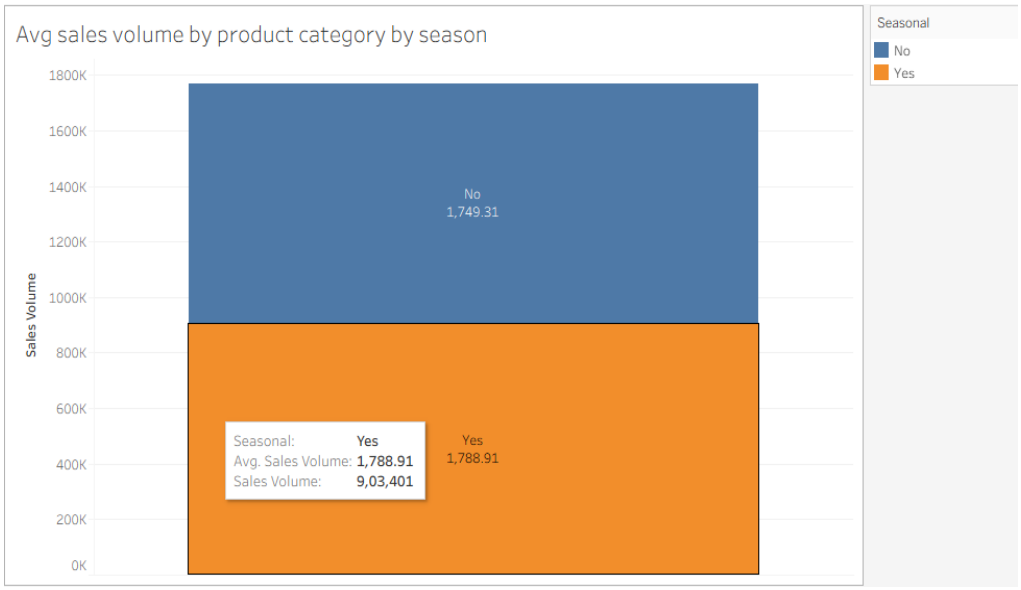


- Promotion vs. Sales

Promotion of product category on price and sales

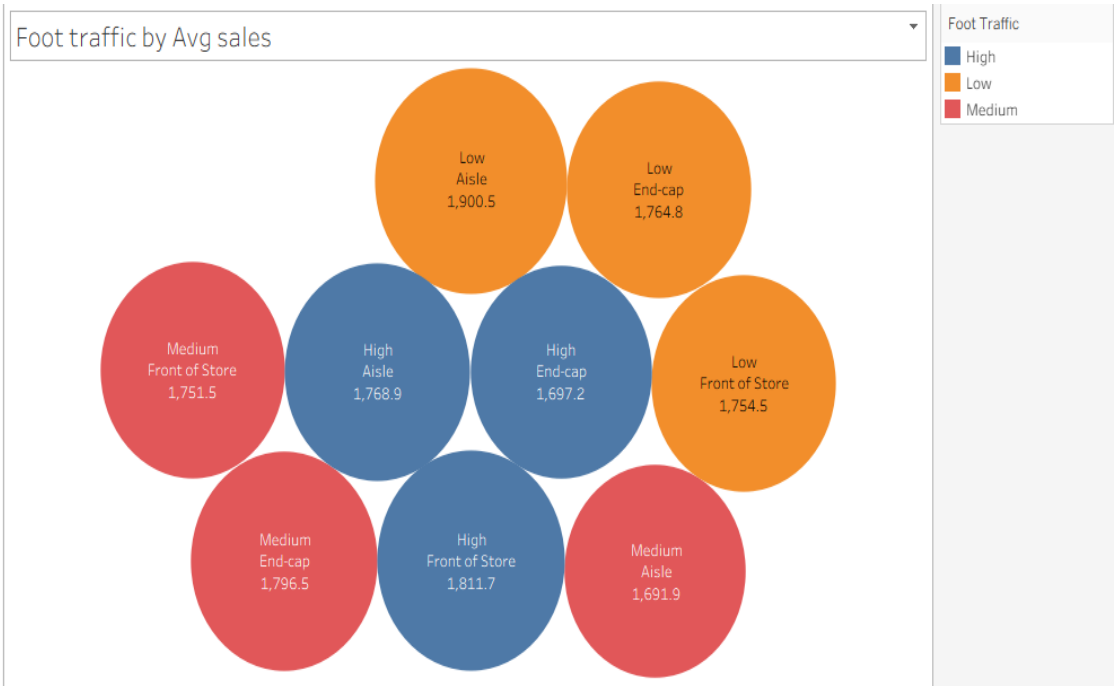
Promotion	Product Category	Avg. Price	Avg. Sales Volume
No	Clothing	27	1,869
	Electronics	27	1,726
	Food	28	1,677
Yes	Clothing	29	1,781
	Electronics	29	1,773
	Food	29	1,782

- Seasonal Trends



- Competitor Price Comparison

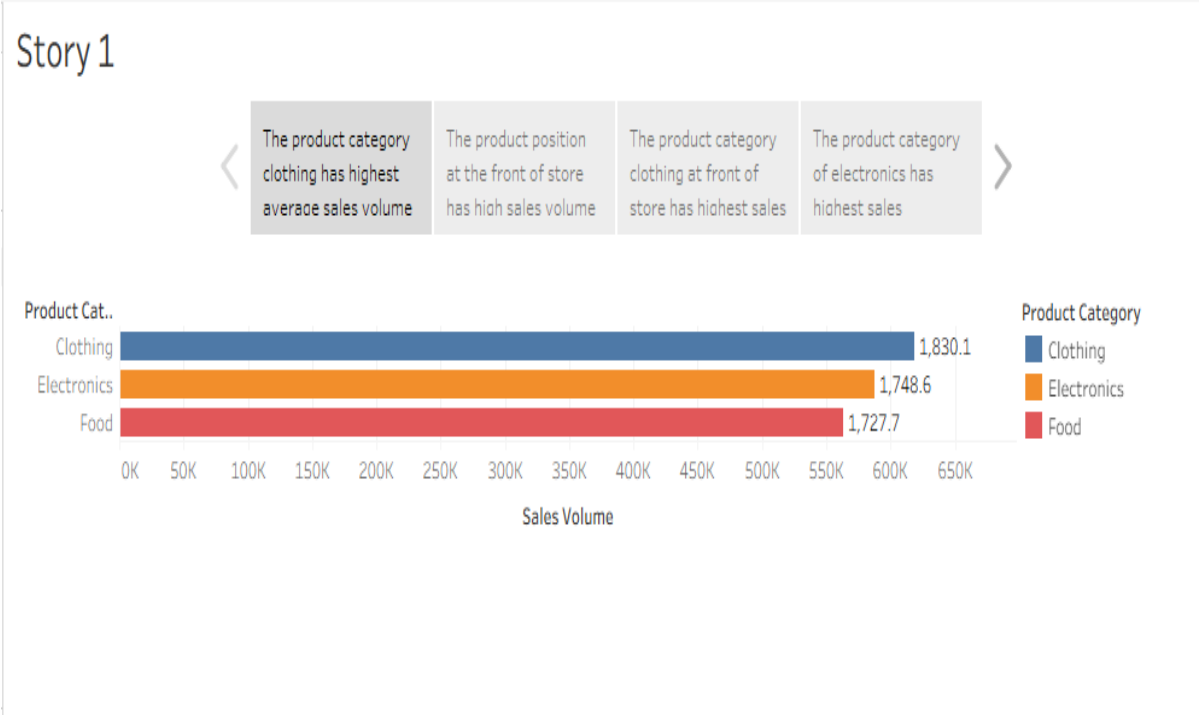
- Foot Traffic vs. Sales



Dash board:


Strategic product placement analysis
Sales volume vs product category
Product Cat..
Clothing
Electronics
Food
1,830.1
1,748.6
1,727.7
0K
200K
400K
600K
800K
Sales Volume
Competitor price vs price
Product Category
Clothing
Electronics
Food
Value
40
20
0
9,379.50
9,379.50
9,357.97
9,357.97
9,282.54
9,282.54
Avg. C..
Avg. Price
Avg sales by product category by position
Clothing
Clothing
Electronics
Electronics
Food
Food Aisle
Food Front of
Consumer demographics vs sales
Avg. Sales Volume
4K
2K
0K
4,50,063
4,43,276
4,44,089
Product category vs price
Food
28.4740
Clothing
27.7500
Electronics
27.8511
Avg sales volume by product category by season
Sales Volume
1500K
1000K
500K
0K
No
1,749.31
Yes
1,788.91
Foot traffic by Avg sales
Low
Low
Medium
High
High
Low
Medium
High
Medium
Promotion of product category on price and sales
Promotion
Product Cat..
Avg. Price
Avg. Sales..
No
Clothing
27
1,869
Electronics
27
1,726
Food
28
1,677
Yes
Clothing
29
1,781
Electronics
29
1,773
Food
29
1,782
Product Category
(All)
Clothing
Electronics
Food

Story:



8. ADVANTAGES & DISADVANTAGES

Advantages

- Easy to use by business users

- Interactive and web-embedded

- Visual storytelling makes insight consumption fast

Disadvantages

- Limited to Tableau Public capabilities

- Not real-time unless connected to live DB

- Needs internet for access

9. CONCLUSION

The project successfully visualizes and explains how strategic factors like placement, season, and pricing affect product performance. It equips decision-makers with the ability to act based on data rather than intuition.

10. FUTURE SCOPE

- Connect to a live sales database

- Add user login and personalization

- Include predictive analytics using ML

- Build mobile-responsive version

11. APPENDIX

- Source Code: Available on request / GitHub

- Dataset: Cleaned CSV file with product & sales metrics

	A	B	C	D	E	F	G	H	I	J	K
1	Product ID	Product P	Price	Competit	Promotion	Foot Traff	Consumer	Product C	Seasonal	Sales Volume	
2	185102	Aisle	17.07	16.16	No	Medium	Families	Clothing	No	2823	
3	188771	Aisle	17.41	13.13	No	Low	Seniors	Clothing	No	654	
4	180176	End-cap	43.16	38.37	Yes	Medium	Young adu	Electronic	Yes	2220	
5	112917	Aisle	42.26	38.98	Yes	Low	Families	Clothing	Yes	1568	
6	192936	End-cap	47.94	45.59	No	Medium	College st	Clothing	Yes	2942	
7	117590	End-cap	34.5	34.34	No	Medium	Seniors	Clothing	No	2968	
8	189118	Front of St	41.11	40.15	Yes	High	College st	Clothing	Yes	952	
9	182157	Aisle	15.75	12.3	No	Low	College st	Clothing	No	2421	
10	141861	Aisle	30.07	26.75	Yes	High	Families	Electronic	Yes	1916	
11	137121	Aisle	38	33.38	No	High	Families	Electronic	Yes	656	
12	113143	Aisle	27.42	22.82	Yes	High	College st	Food	Yes	2663	
13	140028	Aisle	12.15	9.39	Yes	High	College st	Food	Yes	1260	
14	134693	Aisle	31.45	28.93	Yes	Low	College st	Food	No	2124	
15	151396	Front of St	19.81	17.04	Yes	Medium	Families	Food	Yes	729	
16	132889	Aisle	15.74	12.8	Yes	Low	Families	Food	Yes	2265	
17	152174	End-cap	13.16	12.94	No	Medium	Young adu	Clothing	No	2226	
18	129906	Aisle	14.58	14.49	No	Medium	Young adu	Food	No	2089	
19	195879	Front of St	21.03	18.54	Yes	Medium	Young adu	Food	Yes	2339	
20	155050	Aisle	19.92	14.93	No	High	College st	Clothing	Yes	2321	

- Project Demo:

Tableau - stratagic product - Tableau li